BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NOS. 2019-185-E and 2019-186-E

South Carolina Energy Freedom Act (H.3659) Proceeding to Establish Duke Energy Carolinas, LLC's and Duke Energy Progress LLC's Standard Offer Avoided Cost Methodologies, Form Contract Power Purchase Agreements, Commitment to Sell Forms, and Any Other Terms or Conditions Necessary (Includes Small Power Producers as Defined in 16 United States Code 796, as Amended) – S.C. Code Ann. Section 58-41-20(A)	Docket Nos. 2019-185-E and 2019-186-E

JOINT PREHEARING BRIEF OF SOUTH CAROLINA SOLAR BUSINESS ALLIANCE AND JOHNSON DEVELOPMENT ASSOCIATES

COME NOW Intervenors the South Carolina Solar Business Alliance ("SCSBA") and Johnson Development Associates ("JDA," and together with SCSBA, "Intervenors"), pursuant to the Hearing Examiner Directive issued in these consolidated dockets on September 19, 2019 (Order No. 2019-107-H), and file this Prehearing Brief.

I. STATEMENT OF THE CASE

A. INTRODUCTION

South Carolina Act No. 62 of 2019 ("Act 62" or "The Act") is a comprehensive energy policy intended to advance the responsible development of renewable energy in South Carolina in a way that protects and benefits ratepayers, increases consumer choice, injects additional

competition into the state's monopsony energy market, and promotes the state's policy of encouraging renewable energy. The Act prioritizes transparency within regulatory proceedings and requires that Commission decisions not discriminate against small power producers ("SPPs").

The setting of avoided cost rates, as well as the terms and conditions that govern contractual obligations between utilities and SPPs, represents the foundation upon which large-scale solar must compete for market share against South Carolina's vertically-integrated monopoly utilities. The development of large-scale solar facilities is a capital- and time-intensive business that relies on fair and balanced treatment of SPPs within the regulatory arena in order to achieve success and meet the goals of Act 62.

Although ignored by Duke Energy Progress and Duke Energy Carolinas ("Duke" or "The Company") in testimony, there exist substantial incentives for the Company to advocate for avoided cost rates, terms, and conditions that undermine competition from SPPs. Duke's capital bias, which serves the interests of shareholders rather than ratepayers, should be squarely recognized and considered by this Commission in its deliberations in these proceedings. Although Duke dedicates considerable testimony to describing hypothetical risks to customers from SPPs, it should be remembered that the Company's primary responsibility is to its shareholders, while this Commission is tasked with ensuring the best interests of Duke's customers are being met in addition to the statutory requirements of Act 62. To that end, the SCSBA has provided this Commission with a credible analysis of Duke's proposals in these avoided cost dockets, and SCSBA requests that its just and reasonable conclusions and recommendations based on that analysis be adopted in furtherance of the requirements and goals of Act 62.

Given the multitude of issues before this Commission, it is critical to consider the cumulative impact of even small deviations from the just and reasonable, fair and balanced, and

non-discriminatory requirements of Act 62. While any individual flaw or biased assumption in the Companies' proposals might seem relatively inconsequential in isolation, the net negative impact of the many flaws and biases in the Companies' proposals are exceedingly problematic for solar development in South Carolina. Indeed, the consequences of adopting Duke's proposed avoided cost rates, terms, and conditions would result in a virtual, if not total, elimination of large-scale solar development in the state. This result would frustrate the intent of the General Assembly when enacting Act 62, while also depriving Duke's customers of the myriad benefits that accompany solar energy development.

Consistent with the language and intent of Act 62, this Commission should adopt just and reasonable rates, terms, and conditions that serve to "promote the state's policy of encouraging renewable energy." Duke's artificially low avoided cost rates, inflated integration cost analysis, and commercially unreasonable contractual terms and conditions fail to satisfy the statutory requirements pertinent to this proceeding. Therefore, it is incumbent on this Commission to fairly deliberate on the credibility of the alternative analyses presented by intervening parties like SCSBA and determine whether those alternative analyses serve to advance the goals of Act 62, rather than undermine those statutory goals as Duke's proposal would have this Commission do.

The responsible development of solar energy in South Carolina advances consumer preference, increases consumer choice, shields ratepayers from the inherent risks associated with utility-owned generation and investments, promotes local economic development, and furthers the goals of Act 62. Ultimately, the decisions made by this Commission in these proceedings will determine in large part whether or not these attributes of solar energy will materialize for the benefit of South Carolina.

B. Act 62 and PURPA

1. Act 62

Act 62 made substantial reforms to South Carolina's implementation of PURPA as well as other aspects of the state's energy policy. Act 62 is essentially a reset of utility regulation as it pertains to a range of issues related to the expansion of renewable energy generation and utility resource planning, and it provides this Commission with both increased direction and discretion in determining the most appropriate path forward for energy development in South Carolina. The Act makes clear that, in promoting South Carolina's policy of encouraging renewable energy, this Commission is directed to address all renewable energy issues in a fair and balanced manner that considers costs and benefits to all customers and establishes just and reasonable rates that reflect changes in the utility industry as a whole. Act 62 also recognizes and prioritizes increased competition and consumer choice within the state's electricity marketplace.

The primary issues covered in the Act include avoided cost methodologies, commercially reasonable contract terms and conditions, customer-sited generation, integrated resource planning, interconnection, community solar, commercial and industrial access to clean energy, integration of renewable energy, rate design, consumer protection, and increased Commission scrutiny of proposals for the construction of new major utility facilities. In implementing all aspects of the statute, the Commission "is directed to address all renewable energy issues in a fair and balanced manner, considering the costs and benefits to all customers of all programs and tariffs that relate to renewable energy and energy storage." S.C. Code Ann. § 58-41-05.

Key to this proceeding, the Commission is required by Act 62 to "open a docket for the purpose of establishing each electrical utility's standard offer, avoided cost methodologies, form contract power purchase agreements, commitment to sell forms, and any other terms or conditions necessary to implement this section." S.C. Code Ann. § 58-41-20(A). Any decisions by the

commission shall be just and reasonable to the ratepayers of the electrical utility, in the public interest, consistent with PURPA and the Federal Energy Regulatory Commission's implementing regulations and orders, and nondiscriminatory to small power producers and shall strive to reduce the risk placed on the using and consuming public. *Id.*

The Commission is also directed to "treat small power producers on a fair and equal footing with electrical utility-owned resources" by ensuring that:

(1) Rates for the purchase of energy and capacity fully and accurately reflect the electrical utility's avoided costs;

(2) Power purchase agreements ("PPAs") approved by the Commission are commercially reasonable and consistent with regulations and orders promulgated by the Federal Energy Regulatory Commission ("FERC") implementing PURPA; and

(3) Each electrical utility's avoided cost methodology fairly accounts for costs avoided by the electrical utility or incurred by the electrical utility, including, but not limited to, energy, capacity, and ancillary services provided by or consumed by small power producers including those utilizing energy storage equipment.

Id.

Act 62 was also intended to ensure that the Commission would be equipped to conduct a critical analysis of the utilities' avoided cost proposals, by requiring it to engage a third-party consultant or expert to conduct an independent analysis of those proposals and submit a report containing its independently-derived conclusions. This report is intended to be used by the Commission along with all other evidence to inform its ultimate decision. S.C. Code Ann. § 58-41-20(I).

Finally, the legislature evidenced its concern with the transparency and reviewability of the utilities' avoided cost calculations, by requiring that "each electrical utility's avoided cost filing must be reasonably transparent so that underlying assumptions, data, and results can be independently reviewed and verified by the parties and the commission." S.C. Code Ann. § 58-41-20(J).

2. PURPA

The Public Utility Regulatory Policies Act, 16 U.S.C. § 824a-3 et seq., ("PURPA") was enacted by Congress in 1978 and was amended most recently in 2005. PURPA's principal goals included controlling power generation costs and ensuring long-term economic growth by reducing the nation's reliance on oil and gas. *Freehold Cogeneration Associates v. Board of Regulatory Commissioners of New Jersey*, 44 F.3d 1178 (3d Cir. 1995). Another key aim of the statute is to diversify the nation's electric energy supply by requiring electric utilities to purchase the output of small (i.e., less than 80 MW) independently owned alternative energy projects (referred to as "Qualifying Facilities" or "QFs") at the cost the utility would otherwise incur to generate power itself or purchase it from other sources – referred to as the utility's "avoided cost." PURPA was also intended to increase competition from independent power producers by reducing both fuel price risk and the cost of power.[1] Congress required FERC to establish broad guidance regarding the implementation of PURPA, which it has done through rulemaking and numerous orders, but left many of the details of PURPA implementation to the states, subject to compliance with FERC's directives.

There are several aspects of PURPA that are particularly relevant to this proceeding. First, the avoided cost construct was intended by Congress to leave ratepayers indifferent, from the

[1] See, e.g., Public Utility Regulatory Policies Act, Joint Explanatory Statement of the Committee of Conference at 98, Report No. 95-1750 (Oct. 10, 1978).

standpoint of rates, whether the utility purchased power from QFs or procured it elsewhere. However, Congress specifically concluded that it was in the interest of utility ratepayers and the American public to promote QF development and diversify the generation portfolios of U.S. utilities. Since all development of capital-intensive electric generation facilities, including that by investor-owned utilities, requires certainty as to cost-recovery over a commercially reasonable period of time, "ratepayer indifference" in the context of PURPA's goal of promoting QF development does not, and cannot, mean zero risk to ratepayers – any more than that is the standard with respect to utility self-built facilities. Rather, just as the General Assembly recognized in Act 62, it falls to state commissions such as this one to strike a reasonable balance between promoting QF development and protecting ratepayer interests.

Second, based on its view that smaller QFs would have a particularly difficult time negotiating with large monopoly utilities, FERC has required state commissions to adopt pre-approved avoided cost rates for QFs with a capacity of 100 kW or less – referred to as the "standard offer" – and has given states the authority to extend the standard offer to larger QFs. 18 C.F.R. § 292.304(c). States also may establish standard PPA terms and conditions for any size QF.

Third, also out of a concern about utility bargaining power and potential recalcitrance, FERC has provided that a QF, in the absence of a formal contract, may obligate a utility to purchase its power at the current avoided cost rate by unequivocally committing itself to sell that output to the utility, thereby establishing a Legally Enforceable Obligation ("LEO") to sell power to the utility and for the utility to purchase that power. 18 C.F.R. § 292.304(d); *JD Wind 1, LLC*, 130 FERC ¶ 61,127, 61,631 (2010). Although states have considerable latitude in dictating the requirements to establish a LEO, they must observe certain minimum requirements established by FERC, and also cannot impose unreasonable obstacles on the formation of a LEO.

Finally, FERC understood that having the ability to obtain financing was critical to development of QF projects. Based on the understanding that reasonable certainty about long-term revenues was critical to obtaining financing, FERC provided in its regulations that QFs are entitled to enter into long-term contracts for the sale of energy and capacity at rates calculated at the time the contract or other legally enforceable obligation is incurred. 18 C.F.R. § 292.304(d). FERC has also ruled that PURPA PPAs must be of sufficient length to give the QF "reasonable opportunities to attract capital" for its project. *Windham Solar LLC & Allco Fin. Ltd.*, 157 FERC ¶ 61,134 at ¶ 8 (2016).

Intervenors submit that "reasonable opportunities to attract capital" means that a QF must be able to obtain regularly-available, market-rate financing for the costs of developing, building, and operating their projects. This requires the Commission to consider types, terms, and providers of financing for QFs that are wholly different from the preferential financing that the utility enjoys by virtue of its monopoly status, history, and ability to rate-base the entirety of the cost of its generation facilities.[2] QF financing must not depend on a special program of the financing parties, the presence of a credit enhancement not broadly available, or other special circumstances. The terms and conditions of the QFs' PPAs also must meet standard underwriting criteria within the mainstream capital markets.

C. The Obligation to Reduce Ratepayer Risk under Act 62

A primary policy objective of Act 62 is to benefit the customers of South Carolina utilities. Among other things, Act 62 requires that in setting avoided cost rates, the Commission must "strive to reduce the risk placed on the using and consuming public." S.C. Code Ann. 58-41-20(A). Act 62 also requires that the Commission's decisions be just and reasonable, in the public interest,

[2] Rebecca Chilton Direct Testimony at 4-5.

consistent with PURPA and FERC orders and regulations, and "treat small power producers on a fair and equal footing with electrical utility-owned resources."

Duke interprets this language reference to "risk" to refer solely to the risk that the avoided cost rates it pays to QFs under long-term PPAs could exceed the utility's actual avoided cost when that power is delivered, meaning that (in Duke's view) the utility and its customers will have "overpaid" for that QF power.[3] Because Act 62 provides a minimum contract duration of 10 years for QFs, and Duke has no direct means of preventing QFs from exercising their PURPA rights to enter into contracts, Duke implores the Commission —in so many words—to set avoided cost rates as low as possible.[4]

But the ratepayer protection language of Act 62 does not support the utility's single-minded focus on the "risk" of long-term PURPA PPAs. Act 62 is not exhaustive or limiting in describing the kinds of risk this Commission should consider, but the Intervenors believe that the broader context of the Act suggests a more extensive range of risks must be considered by the Commission. And the recent history of investor-owned utilities in South Carolina certainly suggests that there are far graver risks to ratepayers than those posed by long-term fixed-price PPAs.

In fact, the utility's construction and ownership of its own generating facilities—which as demonstrated by Duke's integrated resource plans ("IRPs") is the utility's preferred alternative to more power purchases from QFs—would expose ratepayers to far more risks than long-term fixed-price PPAs.

These include the risks that:

[3] George V. Brown Direct Testimony at 12-13.

[4] George V. Brown Direct Testimony at 16 ("Because this Commission cannot control the volume of contracts the Companies must enter into under PURPA and because Act 62 mandates that the Companies offer long-term ten-year contracts for significant QF capacity until the thresholds set in Act 62 are reached, it is imperative that the Commission ensure avoided cost rates are accurately calculated.")

- Fuel prices that will exceed projections;
- Over the long term a utility asset will prove uneconomical, resulting in stranded assets;
- Utility construction projects will run over-budget or behind schedule;
- A utility construction project will be abandoned; and
- Environmental control or cleanup costs (e.g. coal ash disposal) will exceed expectations.[5]

When a utility purchases power under a long-term QF PPA rather than building a new generating unit, ratepayers are completely insulated from those risks, which are borne entirely by the QF.[6] The ratepayer pays only the energy and capacity value of the power actually produced by the QF.[7]

All things being equal, artificially or unreasonably low avoided cost rates disincentivize the development of QF projects, and further expose ratepayers to the risks posed by utility-owned generation. (Other obstacles to QF development, such as commercially unreasonable PPA terms or obstacles to LEO formation, have similar impacts.) Competition from QFs also tends to drive energy and capacity costs down over the long term to the benefit of customers, and stifling QF development prevents that from happening.

It is also important to note that Duke's construction of its own generating facilities, while it imposes additional risks on ratepayers, also expands the Company's rate base and increases profits for Duke's shareholders at customers' expense. Duke therefore has a strong incentive to pursue avoided cost rates that deter further QF development, allowing the utility to satisfy its capacity needs with its own generating units. SCSBA's members, while they do clearly have an

[5] Hamilton Davis Direct Testimony at 9-15; Ed Burgess Direct Testimony at 13-14.
[6] Jon Downey Direct Testimony at 8-10.
[7] Davis Direct at 22-23.

incentive to seek avoided cost rates that enable project development in South Carolina, are not incentivized to seek arbitrarily high avoided cost rates.[8]

In any event, Duke's assertion that current contracts will result in a $2.26 billion "over-payment" by ratepayers is exaggerated and unfair, both because this figure is based on Duke's current (unapproved) projections of its avoided costs, which may change over time; and also because Duke is drawing a false equivalence between this "over-payment risk" and the broader risks that the construction of utility-owned generating units expose ratepayers to.[9] Moreover, even if existing contract prices turn out in hindsight to have been high relative to unexpectedly low natural gas prices, there is no reason to believe that new PURPA contracts, at the low avoided cost rates Intervenors support, will result in overpayments by ratepayers. On the contrary, there is every reason to believe that such contracts will provide a valuable hedge against gas price increases and volatility.

D. Duke's proposed Avoided Cost Calculations and Methodologies

Duke asks the Commission to approve its application of the peaker methodology to calculate DEC's and DEP's avoided cost rates, including rates for energy and capacity.[10]

1. Avoided Energy Cost Calculations

Duke seeks approval of its proposed methodologies, calculations, and avoided energy rates. Duke uses the "peaker" method to calculate avoided energy rates. Intervenors do not take issue with Duke's use of the peaker methodology. However, there are several deficiencies in Duke's calculation methodologies which render the proposed rates not accurate, just, or reasonable.

[8] Davis Direct at 16.
[9] *Id*. at 8-9.
[10] Joint Application of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC For Approval of Standard Offer Avoided Cost Methodologies, Form Contract Power Purchase Agreements, Commitment To Sell Forms, and Other Related Terms and Conditions at 2.

These issues include the following:

1. Negative avoided cost values: Duke's hourly modeling results show a significant fraction of hours that have *negative* avoided costs in the change case, despite the Base Case having positive marginal cost values in over 99% of hours. The presence of these negative values depresses the average avoided cost rates. Many of these negative avoided cost values occur during critical summer peak periods, when demand is particularly high and solar resources are available. One would naturally expect to see the highest avoided cost values during these periods. The frequency of these negative values suggests deficiencies in Duke's modeling, such as assumptions that do not match reality.[11]
2. Rate structure and selection of pricing periods: Duke has proposed nine energy pricing periods for its avoided energy rates: summer premium-peak, on-peak, and off-peak; winter premium-peak, on-peak (AM and PM), and off-peak; and shoulder-season on-peak and off-peak. Although Intervenors are generally in favor of more granular avoided cost rate structures, the choice of pricing periods has significant implications for avoided cost rates and, ultimately, QF revenues. Duke's proposed rate design arbitrarily reduces the avoided energy cost rate during several key solar QF production hours by averaging these hours with lower value hours.[12] Intervenors propose a modified rate design that would send more accurate price signals to QFs and remove some of the bias, as required by Act 62, against solar QFs during summer mornings and mid-day periods in shoulder months.[13]
3. Combination of balancing areas: DEP's system includes two balancing authorities: DEP East and DEP West. DEP West is located entirely in North Carolina and generally has

[11] Burgess Direct at 22-27.
[12] *Id*. at 36-42.
[13] *Id*. at 39-42.

lower marginal energy costs than DEP East. Notwithstanding the fact that DEP's entire South Carolina service territory is in the DEP East balancing authority, DEP's avoided energy cost values appear to combine model results from both the DEP East and DEP West systems. This may depress avoided energy rates for DEP.[14] Although more information is needed to calculate avoided energy rates that completely account for this issue, on an interim basis it would be just and reasonable to adjust QF energy rates depending on whether the QF is in the DEP East or DEP West region.

4. Large QF Calculation Methodology: The method for calculating avoided energy costs rates for non-Standard Offer, Large QFs is not fully transparent, but appears to diverge from the methodology used to calculate rates for Standard Offer QFs.[15]
5. Environmental costs: Duke's avoided energy cost calculations do not adequately account for certain environmental costs of marginal generating units, in particular coal ash disposal costs.[16]
6. Hedging value of solar: Duke's avoided energy cost calculations do not reflect the fuel hedging value of solar QF resources.[17]

2. Avoided Capacity Cost Calculations

Duke seeks approval of its proposed methodologies, calculations, and avoided capacity rates. Duke uses the "peaker" method to calculate avoided capacity rates. Intervenors do not take issue with Duke's use of the peaker methodology. However, there are several deficiencies in Duke's calculation methodologies which render the proposed rates not accurate, just, or reasonable. These issues include:

[14] *Id*. at 33-35.
[15] *Id*. at 29-31.
[16] *Id*. at 31-33
[17] *Id*. at 28-29.

1. Seasonal Capacity Allocation: Duke proposes to allocate 100% of its capacity need to winter in DEP and 90% of its capacity need to winter in DEC. This seasonal allocation weighting is based on flawed studies commissioned by Duke and performed by Astrapé, including improper assumptions regarding load forecasts, demand response, neighboring utility load and support, and seasonal assumptions for forced outage rates and planned maintenance.[18] Duke's proposed seasonal allocation weightings significantly understate the capacity value that solar QFs provide to Duke in summer months where Duke experiences the vast majority of its peak load hours every year and improperly limit avoided capacity payments available to solar QFs.[19] The Commission should require Duke to incorporate the adjustments to the seasonal allocation of capacity need proposed by SCSBA.[20]
2. New Peaker Capital Costs: Duke's choice of the hypothetical combustion turbine ("CT") unit that it uses to establish avoided capacity costs under the peaker method significantly depresses avoided capacity costs. Duke has chosen the lowest-cost peaking unit in the Energy Information Administration's predetermined list of potential generation technologies and, in addition, has applied an inappropriate "economies of scale" factor which further reduces the avoided capacity rate.[21] Duke's CT unit choice does not necessarily reflect the next peaking unit that Duke will ultimately select to meet future peak demand, including available units that are more efficient and flexible but have higher capital costs.[22] SCSBA recommends that Duke be required to apply a CT cost assumption

[18] *Id*. at 46-51.
[19] *Id*. at 45-46.
[20] *Id.* at 66-68.
[21] *Id.* at 54.
[22] *Id.* at 55-57.

that represents a midpoint between Duke's proposed CT unit choice and the cost of a more efficient and flexible unit (including avoided transmission system upgrade costs)[23], and that Duke remove its inappropriate economies of scale factor.[24]

3. Timing of Capacity Value Based on IRP: DEC's assertion that its first "capacity need" is not until 2026 inappropriately assumes that each QF provides zero capacity value from 2020 to 2026, and again after 2029.[25] Duke links its finding of capacity need to its IRP, but it does not account for regular bilateral sales and purchases of energy and capacity with other load serving utilities.[26] QFs can avoid the need for Duke to engage in certain short-term market capacity transactions, and this avoided cost should be reflected in avoided capacity rates.[27] DEC's assumption that there is no capacity value from QFs past 2029 is also flawed because it assumes that a QF with a 10 year contract will no longer provide capacity value to the utility after that contract expires.[28] Existing QFs will provide a meaningful "option value" because they have no fuel costs, no fuel transport costs, minimal O&M costs, and the cost to recontract with a QF for capacity would likely be very low compared to other options. Duke should be required to include capacity value prior to 2026 for DEC and to recognize the value from QFs past 2029.[29]

E. Duke's Proposed Integration charge

In this proceeding DEC and DEP have both proposed charges that they assert represent the costs they incur to integrate intermittent renewable energy generation onto their respective electric systems. Duke proposes a Solar Integration Charge that is based on the results of a 2018

[23] *Id.* at 58-59.
[24] *Id.* at 57.
[25] *Id*. at 61.
[26] *Id*. at 61-62
[27] *Id*. at 62-64.
[28] *Id*. at 65.
[29] *Id*. at 66-68.

study completed by Astrapé entitled Duke Energy Carolinas and Duke Energy Progress Solar Ancillary Service Study (the "Astrapé Study").

As an initial matter, SCSBA submits that any integration cost methodology developed and imposed on QFs should not be established until the Commission and/or the ORS has conducted the independent integration study expressly contemplated and permitted in Act 62.[30] This analysis will allow the study's administrator and interested parties to evaluate both the costs and benefits of increased renewable energy generation to Duke's grid. An independent study will permit a neutral third-party to make this assessment, rather than basing an integration charge on a utility-commissioned study conducted without any third-party review, peer review by neutral technical experts, or stakeholder involvement.[31]

With respect to the Solar Integration Charge proposed by Duke, SCSBA demonstrates that the Astrapé Study includes serious methodological flaws and has not been adequately supported. SCSBA specifically addresses the following flaws:

1. The Astrapé Study applies a flawed reliability metric that is too stringent and does not accurately reflect how Duke's power system is operated today under applicable NERC reliability standards. The 0.1 $LOLE_{flex}$ reliability metric relied upon by Astrapé in its Study model is not representative of Duke's actual operations in compliance with NERC standards and instead imposes an unnecessarily strict standard that results in a finding that Duke requires increased operating reserves, which results in a higher integration charge.[32]

[30] Act 62, S.C. Code Ann. § 58-37-60(A).
[31] Burgess Direct at 70-71.
[32] *Id*. at 73-75.

2. The Astrapé Study improperly models DEC and DEP as separate islanded systems, which leads to a significant overestimation of integration costs. This modelled islanding is not a true reflection of how Duke's system operates, which involves constant interaction between Duke's balancing areas and those surrounding it simply as a function of being physically interconnected to a larger surrounding system. This benefit of being physically interconnected exists regardless of contracts for purchases or sales between balancing areas, which Duke may also be able to enter into with neighboring utilities. Duke's own sensitivity analysis showed a 15% decrease in integration costs when Duke modeled DEC and DEP as a single balancing area.[33] SCSBA recommends that if the Commission approves an integration charge in this proceeding, it should reflect the fact the DEC and DEP are not actually islanded systems.
3. The Astrapé Study applies a flawed solar output profile which overestimates solar volatility, fails to account for the effects of geographic diversity of solar QFs, and inherently overestimates integration costs. Astrapé's model scales solar volatility linearly, meaning that, for example, doubling the amount of solar on the grid will simply double the level of solar variability.[34] This flawed methodology fails to account for geographic diversity of solar – i.e., that the variability of solar facilities in different locations will be different, based primarily on environmental factors (e.g. cloud cover), so as more solar comes on the grid, the total variability will not scale linearly, since not all solar facilities will ramp up or down at the same time. The Astrapé Study's flawed assumption in its model to the contrary should be rejected.

[33] *Id*. at 76-78.
[34] *Id*. at 78-80.

4. Duke fails to incorporate actual observed integration cost levels, which demonstrate that Duke's actual operating reserves increased by only approximately 3% between 2015 and 2018, despite a 409% increase in solar generation in North Carolina, and that operating reserves actually decreased in years 2016 and 2017.[35] Duke admits that year-to-year changes in operating reserves are impacted by a variety of factors, not just solar.[36] The Astrapé Study's results are contrary to Duke's own observed operating reserve requirements and improperly attribute all future incremental load following reserves (i.e. integration costs) to solar.
5. Duke's Solar Integration Charge analysis also fails to consider or evaluate ways that Duke could more effectively integrate renewable energy onto its grid in the future, and ancillary services that renewable energy generators can provide. Specifically, Duke could actively support the development of and participation in a regional energy imbalance market, which has proven to be a significant benefit to utilities and their customers in the Western Interconnection. Duke could enhance its renewable energy forecasting procedures, which would enable more efficient unit commitment and dispatch processes, and Duke could improve the flexibility of its baseload resources.
6. Duke has proposed a cap in the Solar Integration Charge of $6.70/MWh in DEP and $3.22/MWh in DEC. These caps incorporate the flawed assumptions in the Astrapé Study, are arbitrary and imprecise, and would require QFs to assume that they would be subject to the maximum integration charge during the course of the PPA, which would make it more difficult to finance projects.[37] Indeed, it is highly doubtful that any solar

[35] *Id.* at 81.
[36] *Id.* at 81-82.
[37] Levitas Direct at 32.

QFs can be developed and financed if Duke's avoided cost rate and proposed Solar Integration Charge are approved. While QFs certainly do not have an absolute right to a financeable contract price if that exceeds avoided costs, the state and federal policies supporting QF development require this Commission not to adopt a Solar Integration Charge that suffers from severe substantive and procedural flaws and that would have a devastating impact on QF development.

7. The proposed Solar Integration Charge would represent a variable rate rather than a fixed rate, contrary to PURPA and FERC's clear requirement that QFs have the option to enter into a long-term fixed price contract.[38]
8. Although Duke has acknowledged that the alleged impacts of solar variability can be mitigated in various ways, particularly through the use of properly operated battery storage devices, it has provided no detailed information about such mitigation options. Thus, it is asking this Commission to impose a significant charge on solar QFs without considering, or informing the QFs, how the charge can be mitigated.

For these reasons, SCSBA recommends that the Commission reject Duke's proposed Solar Integration Charge and commission the independent study permitted under Act 62 before adopting any integration charge or credit for QFs.

F. Proposed PPA Terms and Conditions

Duke asks this Commission to approve its proposed Standard Offer (as that term is defined by S.C. Code Ann. § 58-41-10(15)), which includes the Companies' respective Schedule PP (SC) Purchased Power tariffs ("Standard Offer Tariff" or "Schedule PP"), Terms and Conditions for the Purchase of Electric Power ("Standard Offer Terms and Conditions" or "Terms and Conditions"),

[38] *Id*. at 31-32.

and Standard Offer power purchase agreement ("Standard Offer PPA") available to all qualifying cogenerators and small power production facilities ("QFs") up to 2 megawatts ("MW") in size. Duke also seeks approval of a form of power purchase agreement available to small power producer QFs that are not eligible for the Standard Offer ("Large QF PPA") (collectively with the Standard Offer Tariff, Standard Offer Terms and Conditions, and Standard Offer PPA, "the Proposed Contracts").[39]

Intervenors' position is that many of the terms and conditions of the Proposed Contracts are commercially unreasonable and/or inconsistent with PURPA and Act 62.

Intervenors have proposed alternative versions of the Proposed Contracts that are commercially reasonable and legally sufficient. These proposed alternatives, which are presented as redlines to the Proposed Contracts (with comments on specific provisions), are included as Exhibits to Mr. Steven J. Levitas's Prefiled Direct Testimony.[40]

1. Standard Offer Contracts

Intervenors have identified the following issues with Duke's proposed Standard Offer PPA and Terms and Conditions which make the proposed Standard Offer not just and reasonable:

1. Applicability of revised standard offer PPA terms to existing PPAs. Duke argues that any changes to the Standard Offer PPA or Terms and Conditions should be applied retroactively to existing projects with Standard Offer PPAs under the currently-approved tariff. Intervenors' position is that it would be unfair, commercially unreasonable, and inconsistent with PURPA to the "essential terms" of the contracts – i.e., those that could in

[39] Joint Application at 2.
[40] Levitas-1 is a redlined copy of the proposed DEC Standard Offer PPA. Levitas-2 is a markup (with comments) on DEC's proposed Standard Offer Terms and Conditions. Levitas-3 is a markup of the proposed Large QF PPA.

any way affect the projected revenues of the Facility or otherwise alter the rights and duties of the parties with respect to operation of the Facility.

2. Facility Modifications. Duke has introduced several changes to the Standard Offer PPA that would, taken together, require any QF seeking to modify its Contract Capacity or Nameplate Capacity (including its DC rating), to increase its annual energy production above an estimated value, or to add storage to enter into a new PPA at current avoided cost rates.[41] Intervenors do not disagree with Duke's terms that clearly provide that a Facility's AC Contract Capacity may not be modified without the Company's consent. However, it is unreasonable to prohibit changes in a Facility's DC rating and thereby limit efficiency improvements. Intervenors have proposed several changes to the Standard Form PPA related to this issue.

3. Maximum Annual Energy Production. Duke proposes to limit the maximum annual energy production of QF facilities in the Standard Offer. Although Intervenors do not oppose some form of annual output limitation, there are serious problems with the PPA language Duke has proposed to accomplish this objective. Intervenors have proposed alternative language to better accomplish this goal.[42]

4. Prohibition on addition of storage. Duke has proposed contractual terms that would effectively prohibit the addition of energy storage resources to a Standard Offer facility already under contract. Duke's attempt in various ways to prohibit the addition of Storage Resources and other modifications to the Facility after PPA execution is both inappropriate and unnecessary.[43] Furthermore, to the extent Duke may argue (as it has to the North

[41] Levitas Direct at 7-8.
[42] Levitas Direct at 9-10.
[43] Levitas Direct at 10-11.

Carolina Utilities Commission) that the currently-approved Standard Offer Terms and Conditions prohibit the addition of storage to an existing project, that position is inconsistent with the plain language of the tariff.[44]

5. PPA Tenor. The duration, or "tenor," of a QF contract is critical to a project's ability to obtain financing. PURPA requires that QFs be entitled to contracts of sufficient duration to provide reasonable opportunities to attract capital. And generally speaking, the lower the rates under a PPA, the longer the term that is required to attract financing. Given Duke's aggressively low proposed avoided cost rates and proposed solar integration services charge, a longer tenor will be needed than would be the case with a higher avoided cost rate.[45] This is true under both the Standard Offer and Large QF PPAs.

2. Large QF PPA

Intervenors have identified the following issues with Duke's proposed Large QF PPA which make the proposed PPA not just and reasonable:

1. Liquidated Damages. The Large QF PPA imposes substantial liquidated damages ("LDs") on a Seller which is unable to meet its "Commercial Operation Date" or "COD" milestone and allows for termination of the PPA if the Seller misses the COD date by more than 180 days. Although Intervenors do not take the position that no LDs are appropriate, the large LDs proposed by Duke are unreasonable for several reasons, including that they bear no relationship to any potential harm to Duke from a QF's breach of the PPA, which Intervenors believe to be quite modest. A more appropriate measure of damages would be $5000 per MW[46] nameplate capacity up to 20 MW and $2000 per MW above that amount

[44] Levitas Direct at 11-12.
[45] Levitas Direct at 12-13; Chilton Direct at 6-8.
[46] Unless otherwise specified, all of Intervenors' references to Nameplate Capacity are in MW AC.

(so the LDs for a PURPA-maximum 80 MW project would be $220,000). In addition, the Large QF PPA unreasonably affords the Seller no relief from liquidated damages and PPA termination where the delay is caused by force majeure or the utility's delays in interconnecting the facility.[47]

2. Facility Modifications. Duke's proposed Large QF PPA includes many of the same provisions as the Standard Offer limiting the QF's ability to modify the facility, even where such modifications do not affect nameplate capacity. Intervenors take the same position on these provisions as it does on the analogous provisions of the proposed Standard Offer.[48]
3. Energy Storage Protocol. Duke has proposed a protocol dictating many aspects of the operation of energy storage devices as Exhibit 10 to the Proposed Large QF PPA. Although the Energy Storage Protocol is reasonable in most respects, the scheduling provisions of Section 6 of the protocol are unreasonable and would have unintended consequences.[49]
4. Other PPA issues. Intervenors propose several other changes to the Proposed Large QF PPA in order to render it commercially reasonable and consistent with PURPA and Act 62:
    - Enumerated events of default should be amended;
    - PPAs should clarify Seller's rights if the Commission disapproves a PPA; and
    - Seller should be afforded the right to terminate if System Impact Study discloses that interconnection costs are likely to exceed $75,000 / MW nameplate capacity.[50]

G. Proposed NOC Form and LEO Standard

[47] Levitas Direct at 13-16.
[48] Levitas Direct at 17-18.
[49] Levitas Direct at 18-19.
[50] Levitas Direct at 19-20.

Duke asks this Commission to approve its proposed Notice of Commitment Form ("NoC Form"), which incorporates Duke's proposed standard for establishing a LEO under PURPA.[51] Through its proposed NOC Form, Duke proposes that a QF must meet the following prerequisites in order to establish a LEO:

1. Required Certification with FERC as QF;
2. Required Commitment to Execute PPA within 90 days and to deliver power within 365 days of Notice of Commitment Form Submittal Date;
3. Demonstration of Control of Project Site and Required Permits; and
4. Requirement to Be Interconnection Customer of Utility.

Intervenors disagree with Duke's characterization of the purpose of the LEO concept and maintains that its proposed LEO standard is unreasonable and contrary to PURPA. Specifically, elements 2 and 3 are unreasonable and violate PURPA, both because they give the utility the absolute ability to frustrate LEO formation and because they impose "unreasonable obstacles" to obtaining a LEO.[52]

Intervenors propose as an alternative that a QF establishes a LEO when it does all of the following:

1. Establishes control of the Project Site for the duration of the proposed term of delivery; and
2. Requests to become an Interconnection Customer of the Company, and either (a) the Seller has received a System Impact Study Report or (b) one year has elapsed since the filing of Seller's Interconnection Request.

[51] Joint Application at 2.
[52] Levitas Direct at 24-28.

Intervenors agree that because a LEO is premised on a QF's unilateral commitment to deliver its energy and capacity to the utility, a QF that establishes a LEO but ultimately fails to deliver power should have to pay the same liquidated damages as a QF that breaches a Standard Offer or Large QF PPA (i.e. $5000 per MW capacity up to 20 MW, and $2000 / MW thereafter). This will ensure that a LEO represents a *bona fide* commitment by the QF, and will also compensate the utility for any harm as a result of a QF failing to deliver on a LEO.[53] Because of the uncontrollable uncertainties of the interconnection process and interconnection costs, Intervenors propose that a QF be allowed to terminate its LEO without paying damages if the System Impact Study reveals that interconnection costs are projected to exceed $75,000 per MW requested capacity.[54]

Because it requires a QF to have proceeded some ways through the interconnection process, the proposed standard also addresses any concern the utility may have about QFs delivering under "stale rates" due to lengthy delays in the interconnection process.[55]

An alternative version of the NoC Form (which incorporates the LEO standard) is presented as an Exhibit to Mr. Levitas's Direct Prefiled Testimony (Levitas-4).

II. LEGAL ISSUES PRESENTED

This docket presents a number of important legal issues under state and federal law, including the following:

1. What is the scope of risks that this Commission must "strive to reduce" being placed on the using and consuming public, as required by S.C. Code Ann. § 58-41-20(A)?

[53] Levitas Direct at 23-24.
[54] Levitas-4 at 2-3.
[55] Levitas Direct at 26-29.

2. Did the utilities comply with the requirement of Act 62 that their "avoided cost filing must be reasonably transparent so that underlying assumptions, data, and results can be independently reviewed and verified by the parties and the commission"? If not, what is the remedy for their failure to do so?
3. Do the utilities' proposed avoided cost calculations and methodologies comply with the requirements of PURPA and Act 62?
4. Do the utilities' proposed avoided cost calculations and methodologies adequately account for storage resources, as required by Act 62?
5. Should the utilities' proposed Solar Integration Charge be approved given the many substantive flaws in their methodology and the fact that the proposed charge was developed by a contractor hired by the utilities with no independent peer review or stakeholder involvement?
6. Does the utilities' proposed Solar Integration Charge comply with PURPA requirements including the requirement that QFs are entitled to contract at fixed rates established when they incur a legally enforceable obligation?
7. Does Duke's proposed standard for establishing a Legally Enforceable Obligation ("LEO") comply with PURPA and implementing orders and regulations of FERC?
8. Are the utilities' proposed Contract Terms commercially reasonable, and do they comply with PURPA and implementing orders and regulations of FERC?
9. Should changes to the Commission-approved Standard Offer PPA or Terms and Conditions apply retroactively to projects with existing PPAs?
10. Do the liquidated damages provisions of the proposed Form PPA and Standard Offer PPA comply with South Carolina contract law?

11. Have intervening parties proposed just and reasonable alternative rates, terms, and conditions that meet the goals of Act 62 in advancing the best interests of ratepayers, treating small power producers in a non-discriminatory manner, and promoting the state's policy of encouraging renewable energy?

III. IDENTIFICATION OF WITNESSES AND SUMMARY OF TESTIMONY

Intervenors intend to present the testimony of the following witnesses at the hearing in this case:

1. Jon Downey

Summary of Testimony: Jon Downey is the President and CEO of Southern Current LLC, South Carolina's leading developer of utility-scale solar generating facilities. As a business owner and the CEO of a successful energy company, Jon Downey's testimony is intended to provide this Commission with additional insight into the economic development perspective of companies like Southern Current, including the operational processes, risks, and underlying regulatory and policy frameworks that support increased competition in electric generation. In addition, Mr. Downey's testimony explains how businesses like Southern Current help to elevate South Carolina's economic competitiveness and deliver value to ratepayers by reducing risk and increasing stability in electricity rates.

Mr. Downey's testimony also provides an overview of Southern Current and a high-level description of the Company's investment portfolio of solar assets, as well as an outline of the steps and investments necessary to bring a solar project to the point of executing a power purchase agreement ("PPA"), including the financial risks assumed by solar developers. The testimony then contrasts the risks from third party-owned solar assets with the risks borne by ratepayers under the traditional cost of service utility business model.

Finally, Mr. Downey's testimony explains the importance of federal and state policies like PURPA and Act 62 for enabling effective competition in monopsony energy markets like South Carolina, as well as the spectrum of benefits that flow from that competition to the state's businesses and citizens.

2. Hamilton Davis

Summary of Testimony: Hamilton Davis is the Director of Regulatory Affairs for Southern Current, LLC. His testimony begins with an overview of South Carolina Act No. 62 of 2019 ("Act 62" or "The Act") as it relates to these proceedings, including the Act's goals and the authority and direction given to this Commission therein. Mr. Davis illustrates how Act 62 is essentially a reset of utility regulation as it pertains to a range of issues related to the expansion of renewable energy generation and utility resource planning, and how it provides this Commission with both increased direction and discretion in determining the most appropriate path forward for energy development in South Carolina. Mr. Davis further elaborates on the Act's goals in promoting South Carolina's policy of encouraging renewable energy, including the fact that this Commission is directed to address all renewable energy issues in a fair and balanced manner that considers costs and benefits to all customers and establishes just and reasonable rates that reflect changes in the utility industry as a whole, while also recognizing and prioritizing increased competition and consumer choice within the state's electricity marketplace.

Mr. Davis then discusses the risks and incentives for utilities, solar developers, and ratepayers inherent in both the traditional cost of service utility business model and the solar business model enabled by Act 62 and the Public Utilities Regulatory Act of 1978 ("PURPA"). The testimony emphasizes the often-overlooked risks associated with utility-owned generation that do not exist for third party-owned solar generation ("Small Power Producers" or "SPPs"), because

those risks are borne by the SPPs rather than customers. In other words, when generation is owned by SPPs, customers are shielded from these risks. Additionally, Mr. Davis explores the various incentives for utilities and SPPs as they relate to avoided cost rates.

Finally, Mr. Davis provides an overview of PURPA and its implications for energy production in South Carolina. Similar to Act 62, PURPA was established, in part, to diversify electric generation resources by encouraging energy production from small power producers. Congress intended PURPA to shift a portion of electric generation away from resources built, owned, and rate-based by vertically integrated monopoly electric utilities that often resulted in cost overruns paid by ratepayers. Among other goals like energy conservation and efficiency, PURPA was intended to inject limited competition into monopsony energy markets where the only legal opportunity for small power producers to sell electricity is to a monopoly utility.

3. Ed Burgess

Summary of Testimony: Mr. Ed Burgess is a Senior Director at Strategen Consulting and is an expert on utility economics and avoided cost calculations and methodologies. Mr. Burgess's Direct Testimony first provides background information regarding the underlying utility incentive structures that may influence Duke's proposed avoided cost rates in this proceeding and the potential costs and risks to Duke's customers from traditional resources, compared to third-party owned resources. Mr. Burgess's Direct Testimony then critiques (1) Duke's proposed avoided energy rates; (2) Duke's avoided capacity rates; and (3) Duke's proposed Solar Integration Charge.

With respect to Duke's avoided energy rates, Mr. Burgess states that Duke has made a number of methodological choices that all decrease avoided cost rates. Mr. Burgess critiques the prevalence of negative avoided cost values that Duke has used in its avoided cost calculations, which may reflect unrealistic modeling and may depress avoided energy rates. Mr. Burgess states

that these negative values suggest that Duke may be applying modeling assumptions that are inaccurate or inappropriate. Mr. Burgess also identifies a number of additional avoided energy components that Duke has either excluded or inadequately quantified.

Mr. Burgess critiques Duke's treatment of DEP East and DEP West as a single area for the purposes of calculating avoided energy rates, which he argues may inappropriately depress avoided energy rates for DEP in South Carolina. Finally, Mr. Burgess assesses Duke's selection of avoided energy pricing periods which undervalue the costs avoided by solar QFs. Mr. Burgess recommends an amended pricing period to address and mitigate this issue.

With respect to Duke's avoided capacity rates, Mr. Burgess critiques Duke's approach to the seasonal allocation of capacity, which strongly disfavors QFs. Mr. Burgess notes that Duke's seasonal allocation weightings – which put 100 and 90 percent of the seasonal weighting in winter months in DEP and DEC, respectively – are based on flawed studies commissioned by Duke.

Mr. Burgess contests Duke's cost assumptions of the combustion turbine ("CT") peaker plant that Duke uses as a proxy for its avoided capacity rates. Mr. Burgess notes that Duke has selected the lowest cost available peaking unit which likely does not correspond to the unit that Duke will ultimately select to meet future peak demand. Mr. Burgess proposes more reasonable and appropriate peaker units that Duke should apply in its avoided capacity calculation. Mr. Burgess calls into question Duke's treatment of near-term capacity value for DEC, which also inappropriately reduces avoided capacity rates. Mr. Burgess rebuts DEC's assumption that QFs provide zero capacity value from 2020 to 2026 and that DEC and DEP assume that QFs provide zero capacity value after 2029. Additionally, Mr. Burgess proposes a revised calculation of Duke's avoided capacity costs.

Finally, Mr. Burgess critiques Duke's proposed Solar Integration Charge. Mr. Burgess first emphasizes that Act 62 provides specific guidelines for the Commission to conduct an *independent* integration study. Rather than relying on a study commissioned by Duke without stakeholder input or neutral third-party analysis, Mr. Burgess recommends that the Commission conduct the independent integration study contemplated by Act 62 before determining whether any integration charge is appropriate.

Mr. Burgess also addresses serious methodological flaws in the Astrapé Consulting Ancillary Service Study used by Duke to calculate and justify the Solar Integration Charge. The Astrapé Study applies numerous methodologies that do not reflect real-world requirements or operations, and the result is an inaccurate and unsupported Solar Integration Charge. If the Commission were to adopt an integration charge in this proceeding before conducting the independent integration study, Mr. Burgess recommends multiple alterations to the calculation of the Solar Integration Charge to address the deficiencies in the Astrapé Study.

4. Steven J. Levitas

Summary of Testimony: Steven J. Levitas is the Senior Vice President for Strategic Initiatives for Pine Gate Renewables, LLC. Mr. Levitas' Direct Testimony addresses (1) Duke's proposed Standard Offer PPA and Terms and Conditions; (2) Duke's proposed Large QF PPA and Terms and Conditions; (3) Duke's proposed Notice of Commitment form, including the standard for establishing a LEO; and (4) Duke's proposed Solar Integration Charge.

With respect to Duke's proposed Standard Offer PPA, Mr. Levitas critiques key elements of Duke's proposed changes to its existing Standard Offer PPA and Terms and Conditions, which would severely limit a QF's ability to modify its nameplate or project capacity or to add energy storage and thereby limit efficiency improvements to the QF. Mr. Levitas indicates his support for

the application of a "maximum annual energy production value" but critiques flaws in Duke's proposed approach to this issue and supports an alternative that allows for a modest increase in production over a reasonable baseline. Mr. Levitas opposes Duke's proposal to limit reductions in annual energy production to more than 5% as well as Duke's attempt in various ways to prohibit the addition of energy storage, including limitations on time-shifting. Finally, with respect to the Standard Offer PPA's compliance with PURPA, Mr. Levitas emphasizes that the duration of the PPA cannot be considered in vacuum and must instead be evaluated in parallel with the applicable avoided cost rate. Mr. Levitas notes that the low avoided cost rates proposed by Duke will likely increase the length of PPA necessary for QFs to obtain financing.

With respect to Duke's proposed Large QF PPA, Mr. Levitas reiterates his assessment of necessary PPA duration and his assessment of a maximum annual energy production. Mr. Levitas then addresses aspects of the Large QF PPA that he considers to be commercially unreasonable. Specifically, Mr. Levitas notes that the substantial liquidated damages included in Duke's proposed if a QF fails to meet its Commercial Operation Date and the termination of the PPA if the QF misses the COD date by more than 180 days are unreasonable. Mr. Levitas testifies that Duke's proposed liquidated damages are substantially higher than those in other jurisdictions and proposes an alternative liquidated damages amount, objects to penalizing QFs for delays caused by Duke's own delays in the interconnection process and identifies additional commercially-unreasonable terms and conditions proposed by Duke. Mr. Levitas also critiques the Energy Storage Protocol, noting that although the proposed protocol is an improvement over previous iterations, its scheduling provision unreasonably limits a QF's ability to generate during on-peak periods.

With respect to Duke's proposed Notice of Commitment ("NoC") Form, including LEO formation, Mr. Levitas describes the applicable LEO standard as established by FERC, including that the establishment of a LEO should turn solely on the QF's commitment to sell, and not the utility's actions. Mr. Levitas testifies that in order to form a LEO a QF must make a binding commitment to sell its output to the utility, subject to consequences for failing to do so. Mr. Levitas argues that Duke's proposed NoC includes unreasonable requirements, and he discusses ways to address Duke's claims regarding "stale" avoided cost rates.

Finally, Mr. Levitas describes his serious concerns about Duke's proposed integration charge. Specifically, Mr. Levitas describes Duke's proposed integration charge cap, which would allow Duke to increase the integration charge on an existing QF during the PPA up to the amount of the cap and would require the QF to assume that the integration charge applied at the level of the cap after the first two years of the contract.

5. Rebecca Chilton

Summary of Testimony: Rebecca Chilton is Principal for Izuba Consulting, a renewable energy development, finance and operations consulting firm. Ms. Chilton's Direct Testimony draws upon her experience in the renewable energy project finance marketplace. Ms. Chilton provides an expert perspective on the commercial reasonableness of certain terms of PPAs between the utility and qualifying small power production facilities as defined in PURPA and Act 62. Ms. Chilton also addresses contentions made in the testimony on behalf of Duke as to the relative weight that PURPA and/or Act 62 give to their respective legislative goals to encourage renewable energy and how the balancing of those goals might affect terms provided by the utility in PPAs for small power producer QFs.

Ms. Chilton concludes that both PURPA and Act 62 prioritize protection of the ratepayers with "just and reasonable" rates while simultaneously requiring that state-level regulatory bodies refrain from mandating or approving terms and conditions of PPAs that discriminate against QFs. Specifically, Ms. Chilton states that Act 62 requires this Commission to promote consumer interests along with the advancement of QFs, the diversification of the utility's generation mix, and the promotion of renewable energy in the state.

Ms. Chilton concludes that Act 62 requires this Commission to approve PPAs which allow QFs to compete on even terms with the utility's other generation resources, both present and projected, and enable the QF to obtain regularly-available, market-rate financing for the costs of developing, building, and operating their projects. Ms. Chilton opines as to the definition of "regularly-available", market-rate financing and, from a lending perspective, what terms are necessary in PPAs to achieve this for QFs. The witness notes that the threshold established in Act 62 is not whether it is possible for a QF to obtain financing under certain special circumstances, rather it is that PPA terms be commercially reasonable and allow QFs to attract regularly-available, market-rate financing. Ms. Chilton also offers a critique of Duke's proposed avoided costs.

Finally, Ms. Chilton testifies that a longer PPA contract term, accompanied by an appropriately calculated avoided cost-based purchase price, will lead to more mainstream capital availability for QF development. Ms. Chilton notes that Act 62 recommends a ten-year term as a starting point and expressly encourages this Commission to support contracts with terms longer than ten years as a means of promoting renewable energy. Ms. Chilton concludes and recommends that the Commission set the tenor of PPA contracts at a minimum of fifteen (15) years with appropriate conditions as set forth in SC Code Ann. § 58-41-20(F)(1) to facilitate the opportunity to obtain financing for QFs in South Carolina. To best comply with Act 62's goal of promoting

renewable energy development in the state, Ms. Chilton recommends that this Commission direct that Duke's PPAs be offered at fifteen (15) to twenty (20) years, and that some PPAs be approved for twenty (20) years or longer, all with the appropriate statutory conditions.

Respectfully submitted this 30th day of September, 2019.

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SOUTH CAROLINA PUBLIC SERVICE COMMISSION

DOCKET NO. 2019-185-E
DOCKET NO. 2019-186-E

In the Matter of:	)	
	)	
South Carolina Energy Freedom Act (H.3659) Proceeding to Establish Each Electrical Utility's Standard Offer, Avoided Cost Methodologies, Form Contract Power Purchase Agreements, Commitment to Sell Forms, and Any Other Terms or Conditions Necessary	)	**CERTIFICATE OF SERVICE**

This is to certify that I have caused to be served this day one copy of **THE JOINT PREHEARING BRIEF FOR SOUTH CAROLINA SOLAR BUSINESS ALLIANCE AND JOHNSON DEVELOPMENT ASSOCIATES** to the persons named below at the addresses set forth via electronic mail:

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